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Economic Development Implications of Remote Work in the Post-Pandemic Environment

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SUMMARY

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Adam G. Levin
Analyst in Economic Development Policy

Economic Development Implications of Remote Work in the Post-Pandemic Environment

Remote work—in which an individual works for pay from a location other than a specified worksite of his or her employer, including through telework or periodic telework—was a major aspect of the COVID-19 pandemic response. The practice increased dramatically beginning in spring 2020. By one estimate, 61.5% of total U.S. workdays of at least six hours were done fully remotely in May 2020.

Beyond its impact on individuals' working lives, post-pandemic remote work affects various aspects of economic development. This report examines the effects that remote work has had on economic development considerations such as geographic redistribution of jobs and people, business starts and closures, and wages and income. Specifically, this report focuses on the convergence of remote work and economic development with regards to:

- **Productivity.** Increased productivity can contribute to economic growth and development. Researchers have come to somewhat mixed conclusions on whether and how remote work impacts productivity. Where productivity gains have been found to be associated with increased remote work, they have tended to accrue to industries most conducive to remote work, which are also generally those with concentrations of relatively high-paying, high-skilled jobs.
- **Impacts on wages and income**. Wages and income are commonly-tracked metrics for economic development. Several studies have found that remote work is associated with increased wages and income in some industries and economic sectors, such as management and business operations. However, remote work may also be associated with lower wages and income in some industries, such as health care support.
- **Geographic dynamics**. Economic development and growth can be impacted by the movement of jobs and people. Remote work contributed to some shifts in the geographic alignment of jobs and people. For example, central business districts in larger cities have seen declines in jobs and residents, while suburban areas of those cities, as well as some mid-sized and smaller cities, have experienced some gains in those metrics as some individuals no longer appear to be inclined to pay a premium for living in central locations formerly close to job clusters.
- **Business and economic concerns**. The success or failure of businesses is often used to evaluate economic development trends. Increased remote work appears to have been associated with an increase in both the number of businesses that started and that closed. Some studies found that firms with higher remote work levels achieved better financial outcomes during the pandemic, although other classes of firms, such as those in accommodation and food services, were hurt by the decreased foot traffic caused by increased remote work.

Congress has expressed interest in remote work, as it pertains to both the private sector and the federal workforce. For instance, the Telework Enhancement Act of 2010 (P.L. 111-292) required each executive agency to establish and implement a policy under which employees are authorized to telework. Some Members of recent Congresses have introduced bills that would have taken a range of actions with regard to remote work. For example, in the

- 116th Congress, H.R. 6219 would have created a tax credit for private sector employers that allowed employees to work remotely a certain number of days each month;
- 117th Congress, H.R. 4248 would have created an option under which private sector employers who offered "flexible workplace arrangement plans"—including for remote work—would have been exempt from certain state and local laws regarding employee benefits; and
- 118th and 119th Congresses, introduced legislation would, among other things, have required the heads of executive agencies to develop indicators to assess the effects of remote work on agency performance (S. 4043 in the 118th Congress) and require executive agencies to reinstate pre-pandemic remote work policies (S. 354 in the 119th Congress).

Congressional considerations related to remote work and economic development include whether Congress has a role in private sector remote work policies, if Congress can and should address the geographic impacts of increased remote work, and whether and how Congress may address disparities in remote work uptake based on factors such as demographics, industry, and income.

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Introduction

Remote work—in which an individual works for pay from a location other than a worksite of his or her employer—saw a sudden increase for many workers following the onset of the COVID-19 pandemic in spring 2020. While various sources define and measure remote work rates differently, the data generally show a spike in remote work during the pandemic, and that rates of remote work remain elevated compared to pre-pandemic levels.

Remote work, which includes policies that may be defined as "periodic telework," can affect economic development, including by impacting wages and income and the geography of jobs and people. For example, some cities and states have sought to attract new residents by providing grants or other incentives to remote workers to relocate to their region.[1] In other cases, the secondary effects of certain remote work arrangements—such as some highly-skilled workers relocating away from central city locations—have caused concern that certain places may be left behind if the economy permanently shifts more toward remote work. Congress has also shown interest in the economic development aspects of remote work, including introducing legislation that would impact remote work policies for both the private sector and the federal government.

Defining "Remote Work"

In the literature, there is represented what might traditionally be thought of as remote work—jobs that do not require individuals to work from a specified location, allowing workers to essentially live anywhere—as well as what might be called periodic or hybrid telework, where a job requires an individual to regularly work from a specified location at certain times and to regularly work from elsewhere at other times. Both remote work and telework impact the aspects of economic development explored in this report. As a result, this report considers remote work to be any arrangement in which an employee is regularly able to work partly, mostly, or entirely from a location that is not a worksite of their employer.

Remote Work Since the Pandemic

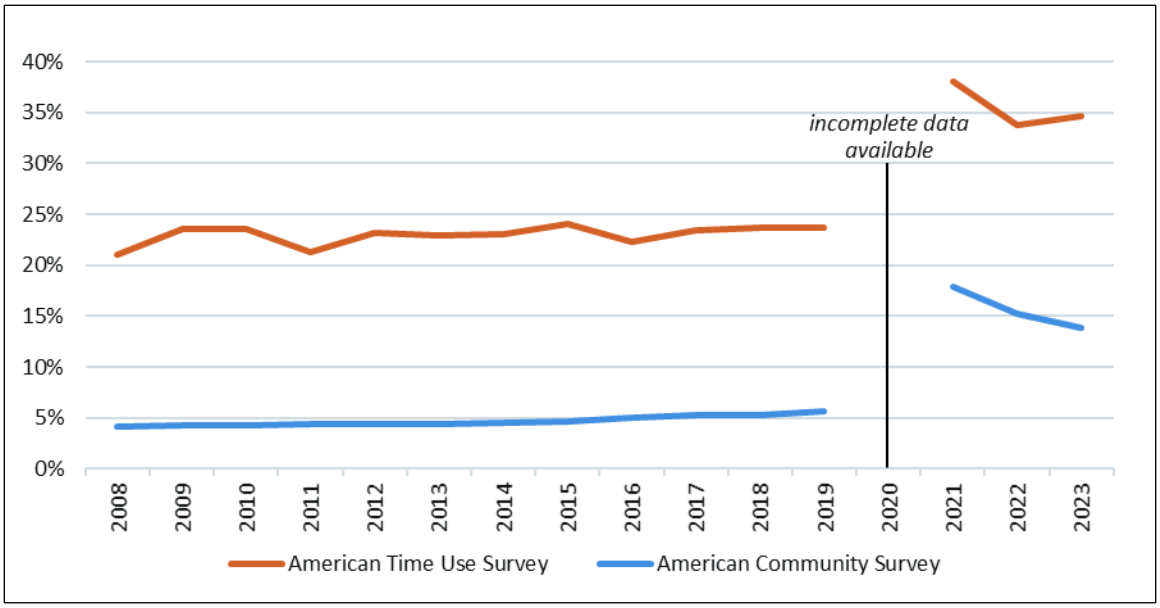
The pandemic caused a sudden increase in remote work (including telework and periodic telework) across many sectors of the economy. Some of this increase has persisted, while in some sectors this has abated to varying degrees.

While there is no consensus on how to count remote workers, various sources show increased remote work since the pandemic. For instance, the U.S. Census Bureau's American Community Survey (ACS) asks respondents how they usually traveled to work in the past week, with instructions to select one option for the method of transportation used for most of the distance. Another source, the U.S. Bureau of Labor Statistics' (BLS') American Time Use Survey (ATUS), asks respondents whether they did any work from their home for any amount of time in the previous day. **Figure 1** presents the number of remote workers from 2008-2023, defining remote workers as respondents who selected "Worked from home" in the ACS survey and respondents who indicated they did any work from home on the previous day in the ATUS.[2] As shown, the amounts increased sharply following pandemic despite different methods of measurement.

[1] One example of this, the Tulsa Remote program, offers remote workers living outside of Oklahoma $10,000 to move to Tulsa and stay for at least one year. Tulsa Remote, *The Tulsa Remote Program*, https://www.tulsaremote.com/.

[2] Counting remote workers in these ways has certain methodological caveats. The ACS question could be considered to potentially undercount the number of people working remotely, as it does not include individuals who may perform some work remotely and some at a worksite. The ATUS question could be considered to potentially overcount the number of people working remotely, as it includes remote work that may not be planned or occur regularly, and includes individuals who spend any amount of time working remotely.

Figure 1. Percentage of Respondents Working Remotely, 2008-2023



Source: U.S. Census Bureau (Census), American Community Survey 1-year estimates, https://www.census.gov/programs-surveys/acs and U.S. Bureau of Labor Statistics (BLS), American Time Use Survey, Table 6. Employed persons working at home, workplace, and time spent working at each location by full- and part-time status and sex, jobholding status, and educational attainment, 2023 annual averages, https://www.bls.gov/tus/.

Notes: Both ATUS and ACS collected incomplete data for 2020, which are not included in the graphic.

Other sources similarly documented increased remote work starting with the pandemic. One group of researchers using an independent data source found that 61.5% of total paid workdays in the United States were performed fully from home as of May 2020, compared to 7.2% of total paid workdays in January 2019. The same researchers found that 29.4% of total paid workdays in the United States were performed fully from home as of January 2025.[3]

Potential Economic Development Implications of Remote Work

This section explores the potential economic development implications of remote work. It focuses on four areas: productivity, workers and earnings, geographic and regional dynamics, and businesses and the economy.

Productivity

Researchers have examined the relationship between remote work and productivity. However, there is not a clear consensus on how productivity is impacted by remote work generally, or the increase in remote work during and after the pandemic.

[3] Jose Maria Barrero, Nicholas Bloom, and Steven J. Davis, *Why Working from Home Will Stick*, National Bureau of Economic Research, Working Paper 28731, April 2021, https://www.nber.org/papers/w28731. The authors continue to collect and update data on remote work trends at https://wfhresearch.com/. A workday was characterized as being performed fully from home if a respondent was paid to work from home for at least six hours of the day.

How is Productivity Connected to Economic Development?

Productivity measures how well inputs (such as working hours) are turned into outputs (such as goods and services). Economists have long considered increases in productivity to be a driver of economic growth and development, at both the national and regional levels. For example, changes to one measure of economic output, net national product, are due to changes in productivity and changes in the number of inputs. One 1961 study found that, for much of the first half of the 20th century, productivity increases accounted for nearly all of the increase in real net national product per capita, compared to changes in the number of inputs.[4] More recent studies have characterized productivity as "a key driver of economic expansion."[5]

Measuring Productivity

Productivity increases when more outputs are made with the same or fewer inputs. However, there are multiple ways to measure productivity. The most common measures include labor productivity and total factor productivity.[6] **Labor productivity** measures the amount of output that can be produced without adding increased worker hours. When labor productivity increases, the economy has increased its efficiency by using the same or less labor to produce more goods or services. **Total factor productivity (TFP)** takes capital and/or other inputs besides labor (such as equipment or education levels) into account when calculating productivity. TFP calculates how efficiently all such inputs are employed in production.[7]

At the sub-national level, productivity can also contribute to economic growth or decline. Analysts examining economic growth for regions of the United States have noted that both job *and* productivity growth have generally characterized metro areas that have seen the strongest economic growth in recent years.[8] While productivity growth may not be the sole factor contributing to economic growth and development, it does appear to play a role.

Some Findings Suggest Remote Work May Benefit Productivity

Academic and government researchers have looked at remote work and productivity. In an attempt to summarize the research on the relationship between remote work and productivity, an August 2023 report from the U.S. Government Accountability Office (GAO) noted that studies on the overall U.S. economy found that remote work "generally had a positive impact on worker productivity and firm performance in certain sectors, but methodological issues complicate efforts to estimate its long-term impacts."[9]

BLS economists found that national TFP growth between both 2019-2021 and 2019-2022 was positively associated with a rise in the share of remote workers in 61 private sector industries,

[4] John W. Kendrick, *Productivity and Economic Growth*, National Bureau of Economic Research, January 1961, pp. 83-84, https://www.nber.org/books-and-chapters/productivity-trends-united-states/productivity-and-economic-growth.

[5] Michael Peters, *American Must Rediscover Its Dynamism*, International Monetary Fund, September 2024, https://www.imf.org/en/Publications/fandd/issues/2024/09/america-must-rediscover-its-dynamism-michael-peters.

[6] For more information, see CRS In Focus IF10557, *Introduction to U.S. Economy: Productivity*, by Lida R. Weinstock.

[7] U.S. Bureau of Labor Statistics (BLS), *What's the Difference Between Labor Productivity and Total Factor Productivity?*, https://www.bls.gov/productivity/educational-material/labor-productivity-total-factor-productivity-comparison.htm.

[8] Gerald Cohen, *Productivity Driving Prosperity: Decoding Local Economic Growth*, Kenan Institute of Private Enterprise, July 31, 2024, https://kenaninstitute.unc.edu/kenan-insight/productivity-driving-prosperity-decoding-local-economic-growth/.

[9] U.S. Government Accountability Office, *Telework: Growth Supported Economic Activity During the Pandemic, but Future Impacts Are Uncertain*, GAO-23-10599, July 26, 2023, https://www.gao.gov/products/gao-23-105999.

even after accounting for pre-pandemic trends in productivity.[10] Across the 61 industries, BLS found statistically significant relationships indicating that a one percentage-point increase in the rise in the percentage of remote workers was associated with a 0.08 percentage-point increase in TFP growth in the U.S. economy as a whole from 2019-2021, and similarly a 0.09 percentage-point increase from 2019–2022.[11]

Overall, BLS noted that an "increase in remote work substantially contributed to productivity growth during the pandemic."[12] Between 2019 and 2021, increased remote work was associated with an average 1.2 percentage-point increase in industry-level TFP.[13] Among the remote work-related factors BLS cited as potentially responsible for increased TFP included: employers reducing office square footage, lower utility costs for businesses, and an increase in new businesses that used relatively more remote workers (potentially lowering certain fixed costs).[14]

Some pre-pandemic research has examined specific cases pertaining to remote work and productivity. For example, one study specifically examined the productivity impacts of the U.S. Patent and Trademark Office's (USPTO's) 2012 implementation of a program allowing certain patent examiners to work remotely every workday from any location. USPTO patent examiners had previously been allowed to work remotely four days a week, but the Telework Enhancement Act of 2010 (P.L. 111-292) specifically charged USPTO with conducting a pilot program for employees to work in a fully remote capacity, either within or outside USPTO's "local commuting area."[15]

USPTO made no changes to the employees' other working conditions, including salaries. The study authors found that PTO's entirely remote work program led to a 4.4% increase in participating patent examiners output.[16] Among the reasons cited for the increased productivity was that workers whose preferences were met by the granting of the entirely remote work benefit became more motivated as a result.[17] The authors further noted that the greater productivity was driven by changes in output by patent examiners living over 75 miles from PTO's primary office, suggesting geographic flexibility also played a role.[18]

Other Studies Suggest Negligible or Uneven Benefits

Some research has found that remote work has little impact on productivity post-pandemic. Economists at the Federal Reserve Bank of San Francisco (San Francisco Fed) examined the relationship between growth in gross domestic product per hour (output) and the ability to work remotely among various industries. The authors concluded that since 2020, industries more conducive to remote work (such as data processing and insurance) did not see larger increases or

[10] Sabrina Wulff Pabilonia and Jill Janocha Redmond, *The rise in remote work since the pandemic and its impact on productivity*, BLS, October 2024, https://www.bls.gov/opub/btn/volume-13/remote-work-productivity.htm. (Hereinafter "Pabilonia and Redmond, *Rise in Remote Work*.")

[11] Pabilonia and Redmond, *Rise in Remote Work*.

[12] Pabilonia and Redmond, *Rise in Remote Work*.

[13] Pabilonia and Redmond, *Rise in Remote Work*.

[14] Pabilonia and Redmond, *Rise in Remote Work*.

[15] 124 Stat. 3172-3173.

[16] Prithwiraj Choudhury, Cirrus Foroughi, and Barbara Larson, "Work-from-Anywhere: The Productivity Effects of Geographic Flexibility," *Strategic Management Journal*, vol. 42, no. 4 (October 27, 2020), p. 5. (Hereinafter "Choudhury, *Work-from-Anywhere*.")

[17] Choudhury, *Work-from-Anywhere*, p. 6.

[18] Choudhury, *Work-from-Anywhere*, p. 7.

decreases in productivity compared to other industries. This evidence suggests that remote work likely did not substantially improve or impede productivity growth.[19]

Other sources have pointed out potential disparities in the impact of remote work on productivity. For example, while increased remote work was likely to have benefits for productivity and income for all workers, it would likely have the most benefits for high-skill workers, whose jobs are generally most conducive to remote work.[20] As those high-skilled workers increasingly adopt remote work, their productivity gap with lower-skilled workers would grow. Further, greater productivity could lead to a larger earnings gap between high-skill and low-skill workers, as high-skill workers produce more at higher wage levels.[21]

Another factor that may impact whether remote work has any bearing on productivity is the amount of collaboration required in a particular position. Multiple studies have found that remote work, videoconferencing, and other forms of virtual communication among colleagues can impede collaborative work and innovation.[22]

Selection Into or Out of Remote Work May Also Impact Productivity

Selection indicates that a worker has chosen remote work and that factors underlying this choice may influence their productivity during remote work. In the early stages of the pandemic, many people that could work remotely did so, often without a choice. As the pandemic eased and some jobs ceased being entirely remote or offered the option of in-person work, more people could choose to pursue jobs that either offered solely remote work or required in-person attendance. As a result, it may be difficult to disentangle whether the relationship between remote work and productivity depends on the nature of remote work itself, or on the productivity of individuals who may choose to work remotely.

One study compared the productivity of employees at a large business's call center, some of whom worked remotely prior to the pandemic and some of whom worked in-person prior to the pandemic, but switched to remote work. The study found that it was individual workers' relative productivity, rather than whether they worked remotely or not, that accounted for any changes in overall productivity.[23]

Conclusive Results May Require Continued Evaluation

Given that researchers have come to somewhat differing conclusions on how increased remote work affects post-pandemic productivity, it may be too soon to extrapolate definitive findings on the relationship. GAO noted, as of 2023, several reasons that made it challenging to fully assess

[19] John G. Fernald, Ethan Goode, and Huiyu Li, et al., *Does Working from Home Boost Productivity Growth?*, Federal Reserve Bank of San Francisco, January 16, 2024, https://www.frbsf.org/research-and-insights/publications/economic-letter/2024/01/does-working-from-home-boost-productivity-growth/. (Hereinafter "San Francisco Fed.")

[20] Morris A. Davis, Andra C. Ghent, and Jesse Gregory, "The Work-From-Home Technology Boon and its Consequences," *The Review of Economic Studies*, vol. 91, no. 6 (November 6, 2024), p. 4. (Hereinafter "The Work-From-Home Technology Boon.")

[21] The Work-From-Home Technology Boon, p. 7.

[22] For example, see Melanie S. Brucks and Jonathan Levav, "Virtual Communication Curbs Creative Idea Generation," *Nature*, vol. 605 (May 5, 2022); and Darja Smite, Anastiasiia Tkalich, and Nils Brede Moe, et al., "Changes in Perceived Productivity of Software Engineers During COVID-19 Pandemic: The Voice of Evidence," *Journal of Systems and Software*, vol. 186 (April 2022).

[23] Natalia Emanuel and Emma Harrington, *Working Remotely? Selection, Treatment, and the Market for Remote Work*, Federal Reserve Bank of New York, Staff Reports, Number 1061, May 2023, p. 2, https://www.newyorkfed.org/research/staff_reports/sr1061.html.

the long-term impacts of remote work on productivity: the difficulty of isolating remote work's impacts on productivity from those of other macroeconomic conditions and the inherent problem of measuring productivity for certain jobs, especially those in the service economy, which may lack concrete outputs—largely the same jobs most impacted by remote work.[24] At the same time, the San Francisco Fed—which found that increased remote work likely did not lead to increased or decreased productivity—qualified that conclusion by noting that, "Our findings do not rule out possible future changes in productivity growth from the spread of remote work. The economic environment has changed in many ways during and since the pandemic, which could have masked the longer-run effects of teleworking."[25]

Another factor that complicates evaluation of the relationship between remote work, productivity, and economic development is that some remote workers do not live in the region in which their employers are located. In a "traditional" working arrangement, a worker may go to their employer's workplace for all working hours—and presumably live within regular commuting distance of that workplace. In such an arrangement, measuring how productivity changes impact regional economic development may be relatively straightforward, as the work is conducted in the same region where the employee lives. However, when remote workers live outside their employer's region, measuring productivity may be more challenging. For example, there may be questions about where any productivity changes take place: in the region where the worker lives, or in the region where his or her employer is located? For policymakers assessing regional productivity to, for example, potentially target areas for assistance, this may present additional complications.

Researchers will likely continue to study if and how increased remote work impacts productivity. As the amount of work performed remotely may fluctuate and the factors discussed above still complicate research findings, such work may be likely to continue in coming years.

Wages, Income, and Other Potential Impacts on Workers

Post-pandemic analysis of remote work's relationship with wages and income has some similarities with remote work and productivity.[26] In some cases, selection may be the primary factor in the relationship—those who are able and choose to work remotely are already in positions earning more or less than those who cannot or choose not to work remotely. In other cases, remote work may have more of a causal relationship with wage and income shifts. Researchers have, to some extent, looked at both dynamics.

How Are Wages and Income Connected to Economic Development?

Wages and income are commonly-used metrics of economic development and growth and can provide insight into the economic well-being of people and regions. Metrics such as household and personal income can be used to assess trends in regional economic activity. Other measures, like per capita income, can be an indication of individuals' and regions' economic health or, conversely, distress. Various organizations advocate using wage and/or income data in economic development analyses. In the federal government, the U.S. Department of Commerce's Economic

[24] GAO, *Telework*, p. 23.

[25] San Francisco Fed.

[26] "Wages" generally refer to money paid for a specific period of time. "Income" refers to money earned from a variety of sources, one of which may be wages. See Census, *Income vs. Earnings*, https://www.census.gov/newsroom/blogs/random-samplings/2010/09/income-vs-earnings.html.

Development Agency (EDA) suggests including an area's average and median wage rate as a baseline metric for economic development assessments.[27]

Remote work could impact wages and income for several reasons. One potential factor may have to do with productivity. For example, should remote work lead to increased or decreased productivity, employers may be inclined to increase or decrease wages commensurately. Selection may also play a role. Some research has found that less productive individuals may tend to self-select into remote work jobs with greater frequency than more productive individuals, driving down wages for remote workers.[28]

Remote work may also drive wages and income up or down for other reasons. Certain skills valued by employers may be positively correlated with remote work, thereby increasing wages.[29] Some remote workers may place more value on remote work's nonpecuniary benefits such as reduced commuting time, and accept lower pay in exchange for those benefits. Research indicates that may be occurring with some remote workers.[30]

Wages and Income of Individuals Who Can and Cannot Work Remotely

Some researchers have found differences in the wages and income of individuals who work remotely and those who are not. In such instances, remote work itself may not contribute to the discrepancies. Rather, the differences may be due to other underlying conditions such as the type of job and the skills and education of the individual filling a job. Other research has sought to examine causal relationships between remote work and wage and income changes.

A June 2020 paper found that 37% of U.S. jobs could be performed entirely remotely, and that such jobs generally were higher-paying than jobs which could not be done entirely remotely. The jobs represented 46% of total U.S. wages at the time.[31] (See **Figure 2**.)

[27] U.S. Economic Development Administration, *Building and Using a New Economic Development Evaluation System*, p. 7, https://www.eda.gov/sites/default/files/filebase/archives/2021/files/performance/ED-Evaluation-Toolkit.pdf.

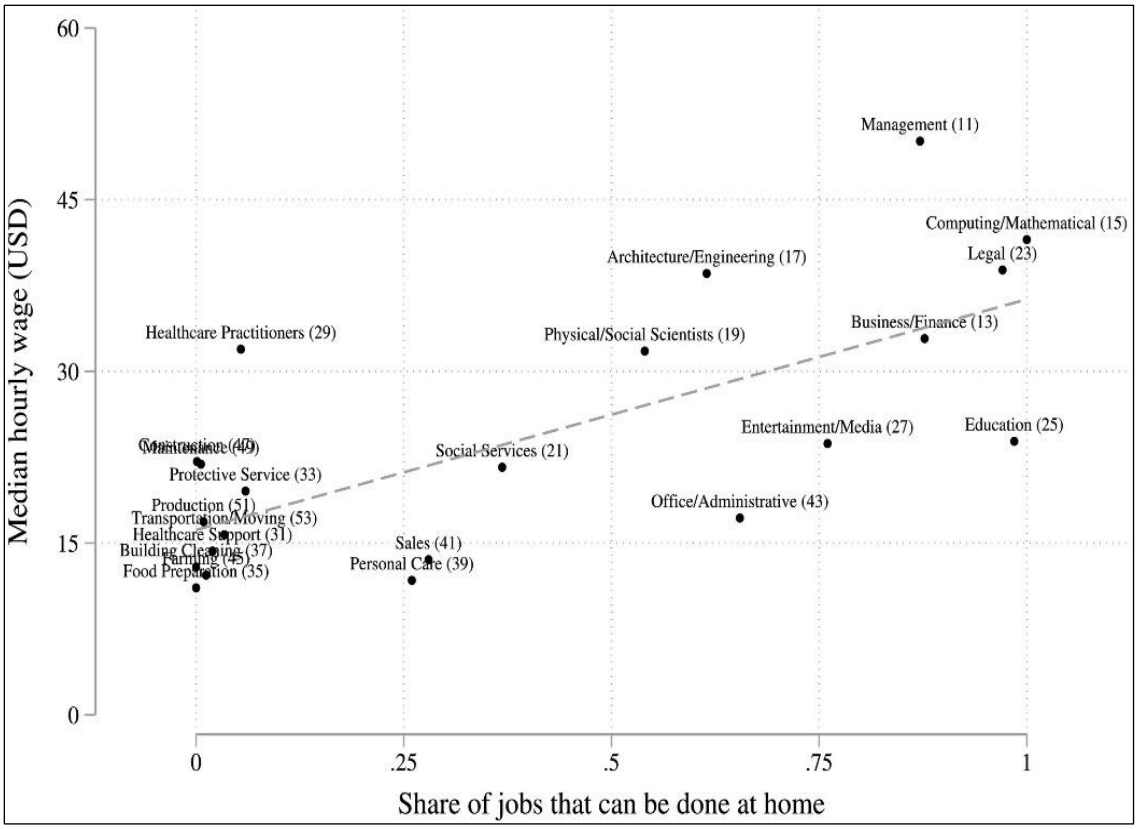
[28] [28] Alexandre Mas, *Non-Wage Amenities*, National Bureau of Economic Research, Working Paper 33643, April 2025, pp. 37-38, https://www.nber.org/papers/w33643. (Hereinafter "Mas.")

[29] Mas, p. 37.

[30] Jose Maria Barrero, Nicholas Bloom, and Steven J. Davis, et al., *The Shift to Remote Work Lessens Wage-Growth Pressures*, National Bureau of Economic Research, Working Paper 30197, July 2022, p. 7, https://www.nber.org/papers/w30197.

[31] Jonathan I. Dingel and Brent Neiman, *How Many Jobs Can Be Done at Home?*, National Bureau of Economic Research, Working Paper 26948, June 2020, p. 1, https://www.nber.org/papers/w26948.

Figure 2. Share of Jobs in Major Occupation Groups That Can Be Done Entirely Remotely vs. Occupation's Median Hourly Wage, 2020



Source: Jonathan I. Dingel and Brent Neiman, *How Many Jobs Can Be Done at Home?*, National Bureau of Economic Research, Working Paper 26948, June 2020, p. 8, https://www.nber.org/papers/w26948.

Notes: Authors used the federal government's two-digit standard occupational classification system. For more details, see BLS, *Standard Occupational Classification*, https://www.bls.gov/soc/2018/major_groups.htm. Wage data is from BLS, *Occupational Employment and Wage Statistics*, https://www.bls.gov/oes/.

At the industry level, the same study found that the share of jobs that could be done entirely at home was strongly, positively correlated with median household income and the percentage of metropolitan area residents with a college degree.

Remote Work's Potential Impacts on Wages and Income

Other research has sought do discern causal relationships between remote work and wages and income. After controlling for demographics and industry, between 2010 and 2021, full-time remote workers in most occupations under examination experienced wage premiums compared to on-site workers (meaning that remote workers' wages were more than those of on-site workers). The wage premium for all remote workers rose in 2020 and 2021. For example, average per-hour earnings for remote workers across occupations were 6.8% higher than on-site workers in 2010, 7.8% greater in 2019, and 13.3% higher in 2021.[32]

[32] Sabrina Wulff Pabilonia and Victoria Vernon, *Remote Work, Wages, and Hours Worked in the United States*, BLS, November 14, 2024, pp. 20-21, https://www.bls.gov/osmr/research-papers/2023/ec230050.htm. (Hereinafter "Pabilonia and Vernon.")

However, the same researchers noted that the wage premiums varied for remote workers in different fields. For example, the 13.3% average per-hour remote worker wage premium in 2021 was eclipsed by remote workers in occupations such as sales and related occupations (20.8% wage premium), management (16.8%), and business operations (14.0%). Moreover, remote workers in other occupations actually paid a wage penalty for working remotely—meaning that their average per-hour wage was less than that of their on-site colleagues. For instance, health care support workers paid a 5.5% average per-hour wage penalty for working remotely rather than on-site. Similarly, workers categorized as working remotely in "white-collar" occupations had a minimum 5% average per-hour wage premium, while workers categorized as working remotely in "blue-collar" occupations averaged a 3.6% per-hour wage premium.[33]

The higher potential for remote work in higher-wage jobs may also have some directly negative impacts on lower-wage occupations. A March 2022 study found that densely-populated zip codes with relatively high pre-pandemic shares of business service workers—whose spending in large, dense cities provides a consistent revenue source to lower-income consumer service workers—experienced large outflows of those business service workers during the pandemic as those individuals began working remotely and moved to less dense locations. Consumer service workers were affected by the resulting impact: consumer service spending declined most in cities with large shares of business service workers, and consumer service workers in those cities experienced a greater loss of working hours than similar workers in cities with lower shares of business service workers.[34]

Geographic and Regional Impacts

Post-pandemic remote work has had and may continue to have notable geographic and regional impacts. These effects have not necessarily been distributed evenly across geographies, although certain patterns appear to be relatively similar throughout the country.

How Are Regional Dynamics Connected to Economic Development?

The United States generally takes a community-led, regionally-oriented approach to economic development. While the federal government maintains a range of economic development programs, its primary role is to assist with projects developed from state and local plans and priorities.[35]

Some of this economic development assistance takes a place-based perspective, focusing on developing policies and programs that address conditions in specific locations, often those that are economically distressed.[36] That assistance may be provided by entities such as Economic Development Districts, which are multi-jurisdictional entities designated by EDA that engage with the agency and local partners across multiple EDA programs and activity areas. Analysts also often examine economic development conditions through a regional lens. For example, one region's concentration of knowledge or businesses in a certain industry may contribute to that

[33] Pabilonia and Vernon, p. 25.

[34] Lukas Althoff, Fabian Eckert, and Sharat Ganapati, et al., "The Geography of Remote Work," *Regional Science and Urban Economics*, vol. 93 (March 2022), p. 2.

[35] For more information, see CRS Report WMR10002, *The CRS Guide to Federal Economic Development*, by R. Corinne Blackford et al.

[36] For more information, see CRS In Focus IF12409, *What Is Place-Based Economic Development?*, by Adam G. Levin.

region's success. In other cases, regions can seem to be in competition, for example in trying to attract certain workers or firms.

Larger Metros, Smaller Metros, and Central Business Districts

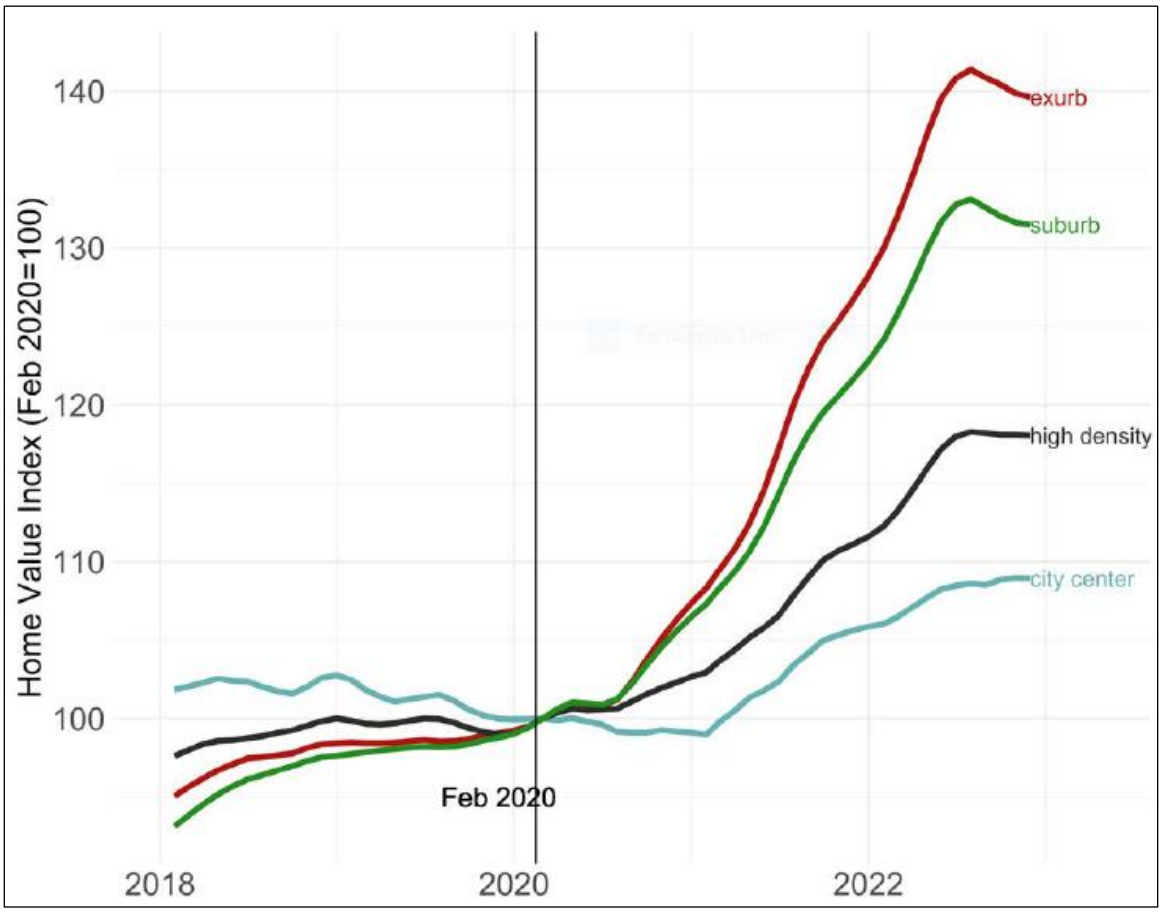
One trend that may be largely attributable to increases in remote work is the shift of residents and workers away from central business districts (CBDs) of large U.S. cities. Multiple studies have found that CBDs in large cities have seen outflows in several categories. For example, one 2022 study noted the "donut effect" on CBDs in large cities, whereby household, business, and real estate demand moves from city centers to the surrounding suburbs and exurbs. Among other findings, the study showed that from February 2020 to August 2022, rent and home price growth in the CBDs of the 12 largest U.S. metro areas was approximately 15 percentage points less than rent and home price growth in the bottom 50% of U.S. zip codes by population density (see **Figure 3**).[37] Further, the study found that over the same period, the CBDs of the 12 largest U.S. metro areas experienced net population and business outflows of 9% and 16%, respectively, while the bottom 50% of U.S. zip codes by population density had increases in population and business starts of 1%-2% during that time.[38]

[37] Arjun Ramani and Nicholas Bloom, *The Donut Effect of COVID-19 on Cities*, National Bureau of Economic Research, Working Paper 28876, December 2022, p. 2, https://www.nber.org/papers/w28876. (Hereinafter "Ramani, *Donut Effect*.")

[38] Ramani, *Donut Effect*, p. 3.

Figure 3. Home Values by Location, January 2018-November 2022

Central business districts experienced the slowest growth following pandemic



Source: Arjun Ramani and Nicholas Bloom, *The Donut Effect of COVID-19 on Cities*, National Bureau of Economic Research, Working Paper 28876, December 2022, p. 19, https://www.nber.org/papers/w28876.

Notes: Prices are indexed to February 2020.

Other studies found similar results. One determined that high-density commuting zones with disproportionate shares of high-skilled business service workers—generally, areas consistent with CBDs—averaged almost 10% population loss from just prior to the pandemic through fall 2020. Conversely, low-density commuting zones—generally, more suburban or exurban locations—averaged approximately 5% population increase over the same period. The authors suggest that this was due to higher-earnings workers—whose jobs were more conducive to remote work—relocating outside of central areas.[39]

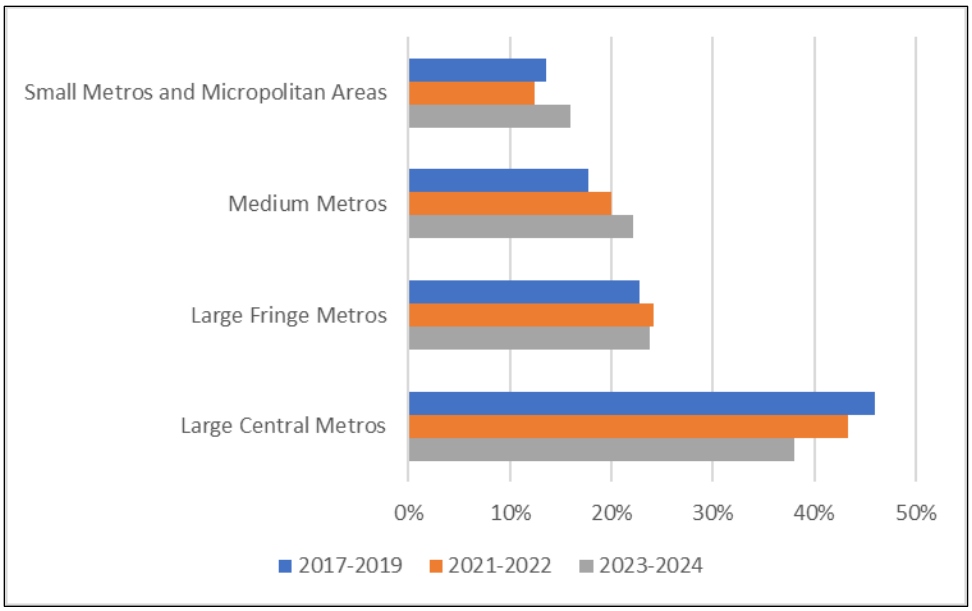
In contrast to large cities that traditionally were destinations for significant numbers of commuters, smaller and mid-sized cities may have benefitted in some ways from increased remote work, including from a higher share of jobs. In 2024, the Federal Reserve Bank of New York found that overall job listings originating in "large central metros"—defined as cities or counties with at least one million residents constituting the center of a commuting area (such as New York City and Los Angeles) fell from approximately 46% of nationwide job listings before the pandemic to around 38% of total job listings post-pandemic. (See **Figure 4**.) Conversely, the

[39] Lukas Althoff, Fabian Eckert, and Sharat Ganapati, et al., "The Geography of Remote Work," *Regional Science and Urban Economics*, vol. 93 (March 2022), p. 6.

proportion of job listings in large "fringe metros"—cities or counties with at least one million residents whose populations largely commuted to a large central metro for work, such as the areas ringing Atlanta and Dallas—were relatively stable. Moving further out, the share of job listings in counties designated as medium or small metros or micropolitan areas increased by about 7 percentage points compared to pre-pandemic levels.[40] The authors suggest that these developments may be due to increased remote work, which decreased the need for a geographically concentrated workforce.

Figure 4. Share of U.S. Job Listings by Metro Area Size, 2017-2024

Amount decreased in large central metros, increased in all other areas



Source: Richard Audoly, Miles Guerin, and Giorgio Topa, et al., *The Anatomy of Labor Demand Pre- and Post-COVID*, Federal Reserve Bank of New York, August 7, 2024, https://libertystreeteconomics.newyorkfed.org/2024/08/the-anatomy-of-labor-demand-pre-and-post-covid/.

The remote work-driven shift of jobs to locations other than CBDs and dense metro areas may have benefits beyond those for the remote workers. One pre-pandemic study found that census tracts close to tracts with a high share of *self-employed* residents working from home saw increases in those residents' income. When the neighboring tract had a high share of *wage and salary* workers—such as workers employed by a company—who worked from home, there was no impact on income.[41] The authors suggested that self-employed remote workers resulted in openings in other jobs in the region, which other workers then filled.

The movement of jobs from urban cores to outlying areas may be related to another discrepancy between CBDs in larger cities and other places: the number of overall people coming into a CBD, either as workers, tourists, shoppers, or otherwise. Multiple sources found that foot traffic in and trips to CBDs of major metro areas were slower to recover to pre-pandemic levels when compared to smaller places. One study found that, as of July 2022, average foot traffic in CBDs

[40] Richard Audoly, Miles Guerin, and Giorgio Topa, et al., *The Anatomy of Labor Demand Pre- and Post-COVID*, Federal Reserve Bank of New York, August 7, 2024, https://libertystreeteconomics.newyorkfed.org/2024/08/the-anatomy-of-labor-demand-pre-and-post-covid/.

[41] Roberto Gallardo and Brian Whitacre, "21st Century Economic Development: Telework and its Impact on Local Income," *Regional Science Policy and Practice*, vol. 10, no. 2 (June 2018), pp. 113-114.

of cities with 150,000 or fewer workers were nearly at their pre-pandemic amounts; for CBDs in cities with at least 1.5 million workers, average foot traffic was approximately 60% of pre-pandemic levels.[42] Another study concluded that while trips to CBDs in smaller U.S. cities had, on average, returned to pre-pandemic numbers by mid-2022, trips to CBDs in larger cities were approximately 60% of pre-pandemic levels. For example, both New York City and Madison, Wisconsin, saw trips to their CBDs decline by approximately 80% in the initial stages of the pandemic. However, by summer 2023, trips to Madison's CBD were fully recovered, while trips to New York City's CBD were around 40% of pre-pandemic amounts.[43]

Real Estate

Since the pandemic, increased remote work has contributed to developments in regional real estate markets.[44] Some real estate sectors, such as office markets, have seen increases in vacancies and declines in value across cities and regions of varying sizes, with increased remote work appearing to play some role in these declines. In other parts of the real estate market, such as residential, the dynamics are somewhat similar to those of the employment shifts described above—certain larger cities have experienced bigger losses, while markets in outlying areas and smaller metro areas have seen relatively smaller losses and, in some cases, recovered to pre-pandemic levels.

The U.S. office real estate market has struggled in several metrics since the pandemic. One study, looking at office real estate markets across the United States, found a collective loss of $556.8 billion in value from December 2019 through December 2023.[45] However, there were large variations among cities. New York City's office real estate market, for example, lost $90.3 billion over that period, San Francisco's lost $30.6 billion, and Charlotte, North Carolina's lost approximately $800 million.[46] The authors also found a correlation between a tenant business's intention to hire remote workers and a reduction in leased office space. Some analysts have found that the office real estate market may have since improved, but note caution going forward. For example, CBRE, a real estate services company, forecasted that there were 17 million square feet of new office space in the nationwide development pipeline for 2025—below the 10-year average of 44 million square feet. However, the same report noted that, in 2024, 38% of respondents in CBRE's survey of office occupiers expected to expand their portfolio of commercial office space over the next three years—the first year since at least 2021 that more respondents planned to expand than contract their office holdings. The report also noted that office attendance was beginning to reach a "steady state."[47]

[42] Jose Maria Barrero, Nicholas Bloom, and Steven J. Davis, *The Evolution of Work from Home*, National Bureau of Economic Research, Working Paper 21686, September 2023, p. 7, https://www.nber.org/papers/w31686.

[43] Ferdinando Monte, Charly Porcher, and Esteban Rossi-Hansberg, *Remote Work and City Structure*, National Bureau of Economic Research, Working Paper 31494, July 2023, p. 3, https://www.nber.org/papers/w31494.

[44] For more information on recent dynamics in the commercial real estate market, see CRS Report R48175, *Commercial Real Estate and the Banking Sector*.

[45] Arpit Gupta, Vrinda Mittal, and Stijn Van Nieuwerburgh, "Work from Home and the Office Real Estate Apocalypse," *American Economic Review (forthcoming)*, February 6, 2025, p. 4. (Hereinafter "Gupta, *Work from Home*.")

[46] Gupta, *Work from Home*, p. 4.

[47] Jessica Morin and Charlie Donley, *U.S. Real Estate Market Outlook 2025, Chapter 3: Office/Occupier*, CBRE, https://www.cbre.com/insights/books/us-real-estate-market-outlook-2025/office-occupier.

Other sources have noted losses in the broader U.S. commercial real estate market and the role that remote work (to include telework) has likely played.[48] For example, the International Monetary Fund noted that average prices across the U.S. commercial real estate market dropped 11% between March 2022 and January 2024.[49] Moody's found that, as of the second quarter of 2024, office vacancy rates continued to be higher than historical averages in many cities across the country. As of June 2024, the average office vacancy rate in America's 50 largest metro areas was 20.1%—the highest since at least 1979, when the average vacancy rate was 6.5%. (The rate in 2020 was 17.5%.)[50] Overall, the nationwide average CBD office vacancy rate was lower than that of the average suburban office vacancy rate (18.4% to 21.1%, respectively), although that dynamic was reversed in some large markets. In the San Francisco Bay Area, for example, the average office CBD vacancy rate was 23.0%, compared to 16.7% for the average suburban office vacancy rate.[51] This may be an example of CBDs in larger, high-density cities with concentrations of jobs that are conducive to remote work experiencing higher vacancies as jobs formerly located in downtown offices became candidates for increased remote work.

However, certain aspects of real estate markets, particularly in small and mid-size cities, have regained their value since the pandemic. Researchers found that, as of December 2022, the average residential price premium (the additional amount someone would pay to live in a particular location) for living near "downtown" areas had returned to pre-pandemic levels in small cities, but not in large cities. The authors attributed this dynamic to increased remote work rates being concentrated in larger, high-density metro areas.[52] Similarly, another study found that cities throughout the United States experienced rent and housing price declines in and around their CBDs starting from the beginning of the pandemic through January 2021. However, in small cities those declines stopped and then reversed, largely rising back to pre-pandemic levels, by the end of 2022. Those declines persisted over the same period for larger cities.[53]

Impacts on Businesses and the Economy

How Are Businesses Connected to Economic Development?

The success or failure of businesses is often considered to be vital to economic growth and development. This includes entrepreneurship, or the starting of new business ventures, which is viewed by some as an "engine for economic growth" due to its potential to create jobs, contribute to market competition, facilitate innovation, drive technological changes, and transfer knowledge.[54] It also includes the growth of existing businesses.

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[48] For example, see Dana M. Peterson, *U.S. Commercial Real Estate Is Headed Toward a Crisis*, Harvard Business Review, July 23, 2024, https://hbr.org/2024/07/u-s-commercial-real-estate-is-headed-toward-a-crisis..

[49] Andrea Deghi, Fabio Natalucci, and Mahvash S. Qureshi, *US Commercial Real Estate Remains a Risk Despite Investor Hopes for Soft Landing*, International Monetary Fund, January 18, 2024, https://www.imf.org/en/Blogs/Articles/2024/01/17/us-commercial-real-estate-remains-a-risk-despite-investor-hopes-for-soft-landing.

[50] Moody's, *A New Working Order: Reimagining Offices in a Hybrid Word*, September 10, 2024, https://www.moodys.com/web/en/us/about/insights/data-stories/us-commercial-real-estate-vacancies-downtown-vs-suburbs.html. (Hereinafter "Moody's, *New Working Order*.")

[51] Moody's *New Working Order*.

[52] Jose Maria Barrero, Nicholas Bloom, and Steven J. Davis, *The Evolution of Work from Home*, National Bureau of Economic Research, Working Paper 21686, September 2023, pp. 7-8, https://www.nber.org/papers/w31686.

[53] Ferdinando Monte, Charly Porcher, and Esteban Rossi-Hansberg, *Remote Work and City Structure*, National Bureau of Economic Research, Working Paper 31494, July 2023, p. 31, https://www.nber.org/papers/w31494.

[54] Chen Yeh, *Why Are Startups Important for the Economy?*, Federal Reserve Bank of Richmond, Economic Brief No. 23-06, February 2023, https://www.richmondfed.org/publications/research/economic_brief/2023/eb_23-06.

In addition to its potential for job creation and economic growth, entrepreneurship and business growth are also considered core regional economic development strategies for other reasons. For example, they can provide alternative sources of income and build individual wealth. Often, they are used as a core component of local area redevelopment strategies as well.

Businesses, the Economy, and Remote Work

During the pandemic there was an increase in the number of business starts. According to the U.S. Census Bureau (Census), there were 392,496 total U.S. business applications in January 2025; 505,120 in May 2021; and 303,081 in February 2020.[55] Research has found that bulk of new business applications was weighted toward industry sectors that were more reliant on remote work such as professional, scientific, and technical services.[56]

Other research has pointed to further potential macroeconomic impacts of remote work. One study found that cheaper and more prevalent remote work increased profitability for firms of all sizes due to factors such as lower wage growth pressure, less employee turnover, and lower training costs. These factors then resulted an increase in both firm entry (startup) and exit (closure) rates.[57]

At the firm level, several studies concluded that increased remote work (to include telework) was beneficial to firm performance during the pandemic. GAO noted that all the studies it reviewed "found that firms with greater ability to allow workers to telework were more resilient during the pandemic, and that telework mitigated the negative impact of the pandemic on firm performance."[58] One study used data from 200 million U.S. job postings to find that public firms with relatively higher levels of remote work averaged stock returns of 4.3% during the early part of the pandemic, while public firms with lower levels of remote work averaged returns of -1.5% in the same period (pre-pandemic, both type of firms' average returns were essentially the same). Public firms with more remote work also averaged 12.5% growth in net income from 2019 to 2020, while public firms with less remote work averaged 6.6% growth in net income over that period.[59] Another study found that, controlling for local economic, demographic, and policy conditions, U.S. small businesses in states with greater rates of remote work during the pandemic were less likely to have operating revenue losses, supply chain disruptions, and cash flow

[55] U.S. Census Bureau, *Business Formation Statistics, Monthly Total Business Applications*, https://www.census.gov/library/visualizations/interactive/bfs-visualizations.html. While the total number of business applications rose, the share of business applications for "high propensity businesses"—businesses that Census considers to be "likely employers"—compared to overall business applications has been consistently lower since the pandemic than pre-pandemic.

[56] John C. Haltiwanger, *Entrepreneurship During the COVID-19 Pandemic: Evidence from the Business Formation Statistics*, National Bureau of Economic Research, Working Paper 28912, June 2021, p. 4, https://www.nber.org/papers/w28912. For an example of later coverage of the pandemic's impact on startups, see Kenan Fikri and Daniel Newman, *How the Pandemic Rebooted Entrepreneurship in the U.S.*, Harvard Business Review, January 17, 2024, https://hbr.org/2024/01/how-the-pandemic-rebooted-entrepreneurship-in-the-u-s. For more details on U.S. entrepreneurship, see CRS Report R48254, *Entrepreneurship in Regional Economic Development*.

[57] Petr Sedlacek and Chenchuan Shi, *Work from Home, Business Dynamism, and the Macroeconomy*, CEPR, Discussion Paper 18817, February 6, 2024, pp. 2-4, https://cepr.org/publications/dp18817.

[58] U.S. Government Accountability Office, *Telework: Growth Supported Economic Activity During the Pandemic, but Future Impacts Are Uncertain*, GAO-23-105999, July 26, 2023, p. 21, https://www.gao.gov/products/gao-23-105999. (Hereinafter "GAO, *Telework*.")

[59] John (Jianqiu) Bai, Erik Brynjolfsson, and Wang Jin, et al., *Digital Resilience: How Work-From-Home Feasibility Affects Firm Performance*, National Bureau of Economic Research, Working Paper 28588, March 2021, p. 9, https://www.nber.org/papers/w28588.

disruptions than were small businesses in states with lower rates of remote work.[60] A study of German businesses during the pandemic produced similar findings: it found that, all else equal, a 10 percentage point increase in a firm's remote work rate in 2020 was associated with both a two percentage point decrease in the probability of lower revenue and a 1.3 percentage point increase in the probability of turning a profit.[61]

The benefits of remote work may not accrue to all businesses. Increased remote work can decrease foot traffic and visitors in certain locations (see "Geographic and Regional Impacts"). These declines can be particularly hard for businesses in industries less conducive to remote work that tend to gather in business districts, such as accommodation and food services. Some researchers found that a 10% decrease in foot traffic in a given census tract caused a 2.8% decline in employment in accommodation and food services in that census tract.[62] The study further found that the biggest decreases in foot traffic tended to occur in census tracts with high job density.[63]

Issues for Congress

Congress may have interest in several aspects of remote work as it pertains to economic development.

Congress's Role Concerning Private Sector Remote Work

At a high level, Congress may consider what role—if any—it might play in developing, promoting, or discouraging remote work policies, particularly as they relate to the private sector. For example, Congress could consider legislation that may incentivize or otherwise encourage remote work, or set conditions for remote work. Congress has previously considered such legislation. Such bills included legislation that would have provided employer tax credits for offering employees certain remote work options, such as H.R. 710 in the 112th Congress and H.R. 6219 in the 116th Congress. Congress has also considered legislation (H.R. 4248 in the 117th Congress) to create a voluntary option under which employers who provided "flexible workplace arrangement plans" (including a remote work plan) would have been exempt from certain state and local laws regarding employee benefits. Conversely, Congress may decide that it does not have a role to play in private sector remote work policies.

Geographic Concerns

Remote work has had uneven uptake and impacts throughout the country. Among the places most affected by increased remote work are central business districts (CBDs) in large metro areas, which in some cases have seen outflows of jobs and residents.

Congress has a longstanding interest in supporting geographic areas experiencing economic distress. Traditionally these programs have targeted areas experiencing high levels of

[60] Ting Zhang, Dan Gerlowski, and Zoltan Acs, "Working from Home: Small Business Performance and the COVID-19 Pandemic," *Small Business Economics*, vol. 58 (2022), p. 612.

[61] Christian Kagerl and Julia Starzetz, "Working from Home for Good? Lessons Learned from the COVID-19 Pandemic and What This Means for the Future of Work," *Journal of Business Economics*, vol. 93 (2023), pp. 244-245.

[62] Michael Dalton, Matthew Dey, and Mark Loewenstein, *The Impact of Remote Work on Local Employment, Business Relocation, and Local Home Costs*, BLS, Working Paper 553, March 2, 2023, p. 10, https://www.bls.gov/osmr/research-papers/2022/ec220080.htm. (Hereinafter "Dalton, *Impact of Remote Work*.")

[63] Dalton, *Impact of Remote Work*, p. 8.

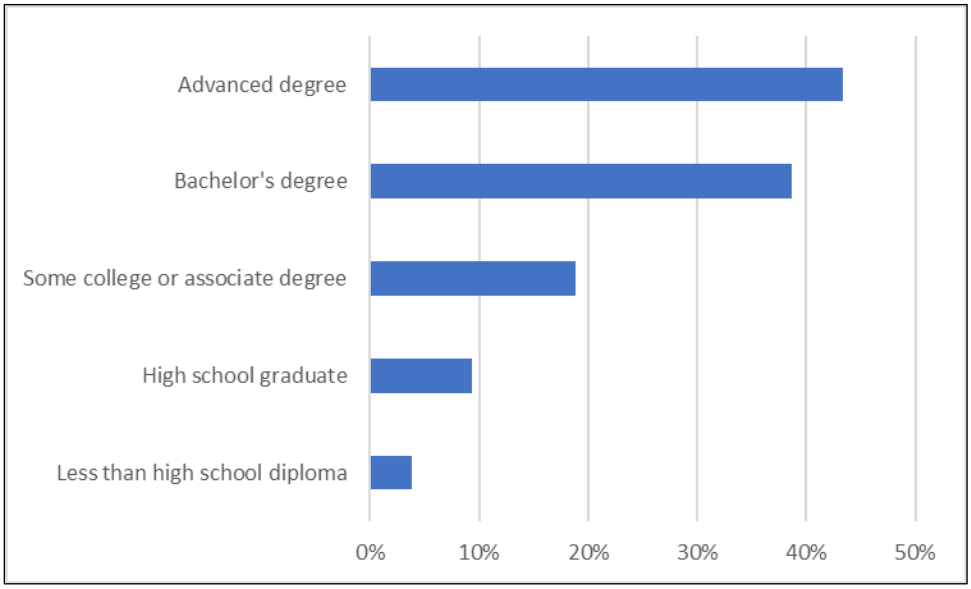
unemployment and poverty, among other metrics.[64] Executive agencies such as the U.S. Economic Development Administration and U.S. Small Business Administration are among those operating programs aimed at areas of economic distress.

Many of the areas most impacted economically by increased remote work may be unlikely to qualify as economically distressed by many existing programs. However, Congress could consider whether to authorize programs to target such areas for assistance. For example, Congress could consider programs incentivizing workers to return to worksites in CBDs in large metro areas. As mentioned above, these may include tax credits for employers who bring workers back to the office. Alternatively, Congress may decide it does not have a role in what may be considered state- and local-specific economic development efforts.

Other Disparities in Remote Work

Remote work rates tend to be correlated with variables such as economic sector and demographics. Higher levels of education, having a job in particular economic sectors such as finance and information, and belonging to certain age and racial groups are all associated with higher rates of remote work. For example, as **Figure 5** shows, remote work rates increase with education levels.

Figure 5. Share of Individuals Working Remotely by Education Level, First Quarter, 2025



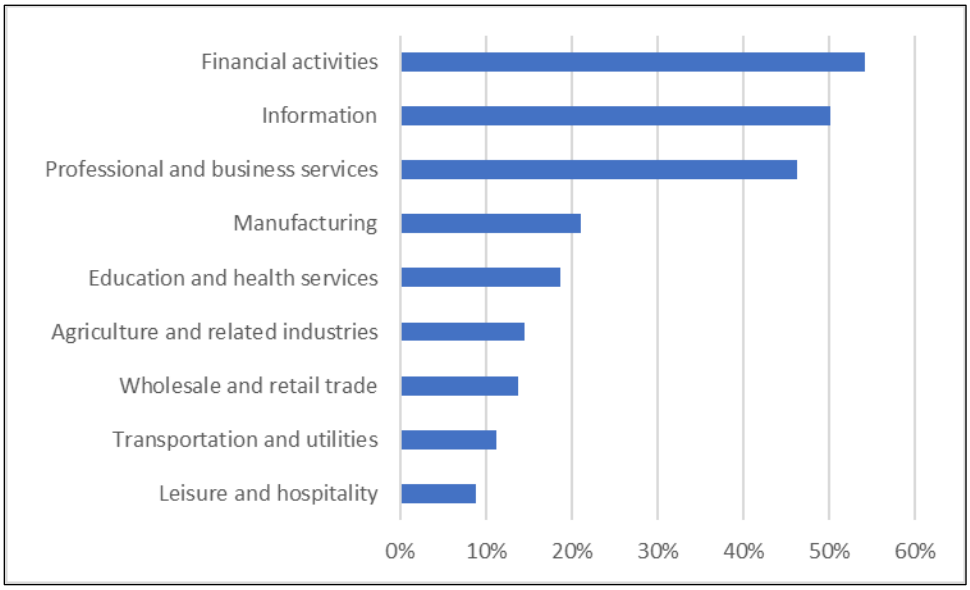
Source: BLS, *Labor Force Statistics from the Current Population Survey, Telework or work at home for pay*, https://www.bls.gov/cps/telework.htm#data.

Notes: Remote workers are defined as individuals who had teleworked or worked at home for pay in the previous week.

As shown in **Figure 6**, remote work levels also differ by industry.

[64] For more information, see CRS Report R48059, *Identifying Areas of Economic Distress: Examples and Considerations*, by Joseph Dalaker, Julie M. Lawhorn, and Lisa S. Benson.

Figure 6. Share of Individuals Working Remotely by Industry, First Quarter, 2025



Source: BLS, *Labor Force Statistics from the Current Population Survey, Telework or work at home for pay*, https://www.bls.gov/cps/telework.htm#data.

Notes: Remote workers are defined as individuals who had teleworked or worked at home for pay in the previous week.

Congress could seek to decide whether such disparities are an issue it wants to address. For example, Congress could use lower remote work rates as a proxy indicator for targeting areas or groups of individuals with certain forms of assistance such as workforce development programs that may seek to boost remote work rates (or that may seek to address underlying causes which may be driving lower remote work rates). However, given the various ways of defining remote workers, such a measure might be difficult to calculate due to certain methodological difficulties.

Another option may be to consider other conditions which may potentially hinder remote work rates. For example, some studies have shown that limited broadband access impacts the ability to work remotely.[65] In addition, individuals without working knowledge of remote work tools (such as videoconferencing) and other technological capabilities may not feel capable of performing remote work. Congress has shown interest in recent years in expanding broadband access to areas that lack sufficient internet speeds.[66] It could continue to assess how broadband access may impact remote work, and whether certain groups of individuals may benefit from training on technology used in remote work.

Congress may also be interested in whether some trends regarding disparities in remote work that have been observed since the pandemic will continue in the long run or abate with time. For example, some researchers have noted the potential for expanded remote work to continue to most benefit highly-skilled individuals in high-paying jobs, thereby possibly exacerbating disparities in income and other nonwage amenities between individuals with expanded access to

[65] For example, see Javier Valentin-Sivico, Casey Canfield, and Sarah A. Low, et al., "Evaluating the Impact of Broadband Access and Internet Use in a Small Underserved Rural Community," *Telecommunications Policy*, vol. 47, no. 4 (May 2023).

[66] For example, see CRS In Focus IF12041, *Farm Bill Primer: Rural Broadband Provisions*, by Lisa S. Benson, and CRS In Focus IF12030, *The Broadband Digital Divide: What Comes Next for Congress?*, by Colby Leigh Pechtol, The Broadband Digital Divide: What Comes Next for Congress?.

remote work and those who lack such access.[67] Congress could choose to require long-term study of these dynamics.

Federal Workforce Remote Work Policies

Some Members of Congress have at times displayed interest in the federal government's remote work policies. For instance, the Telework Enhancement Act of 2010 (P.L. 111-292) required each executive agency to establish and implement a policy under which employees are authorized to telework. Like many private employers, some executive agencies expanded the use of remote work during the COVID-19 pandemic.

Both the Biden and Trump Administrations, as well as some Members of Congress, have made statements encouraging federal workers to return to in-person work.[68] Under the Biden Administration, the Office of Management and Budget (OMB) issued an April 2023 memorandum directing executive agencies to "substantially increase meaningful in-person work at Federal offices, particularly at headquarters and equivalents."[69] On January 20, 2025, the Trump Administration issued a memorandum requiring that, "Heads of all departments and agencies in the executive branch of Government shall, as soon as practicable, take all necessary steps to terminate remote work arrangements and require employees to return to work in-person at their respective duty stations on a full-time basis."[70] In the 119th Congress, the House Committee on Oversight and Government Reform has held hearings on federal remote work policies.[71]

As federal workers have begun returning to on-site work, Congress may consider potential economic development consequences of such developments. For example, an August 2024 OMB report estimated the annual cost of "underutilized" federally-owned or -leased office space at $81.346 million. (The report noted that "underutilized" office space is "often a required asset in a specific location by one or more agencies.")[72] Increasing the number of federal workers in some of those underutilized spaces could have positive effects for businesses surrounding those facilities, some of whom continue to struggle with emptier business districts post-pandemic (see "Geographic and Regional Impacts"). Conversely, if federal employees return to working remotely in large numbers, Congress could consider alternative options for federally-owned business space, for example selling such facilities. Doing so may allow the federal government to downsize its real estate holdings.

[67] For example, see Morris A. Davis, Andra C. Ghent, and Jesse Gregory, "The Work-From-Home Technology Boon and its Consequences," *The Review of Economic Studies*, vol. 91, no. 6 (November 6, 2024).

[68] For an example of congressional statements, see House Committee on Oversight and Government Reform, "Comer Reintroduces Legislation Requiring Federal Workers to Show Up to the Office," press release, January 16, 2025, https://oversight.house.gov/release/comer-reintroduces-legislation-requiring-federal-workers-to-show-up-to-the-office/.

[69] Shalanda D. Young, Memorandum for the Heads of Executive Departments and Agencies: Measuring, Monitoring, and Improving Organizational Health and Organizational Performance in the Context of Evolving Agency Work Environments, Office of Management and Budget (OMB), April 13, 2023, p. 1, https://www.whitehouse.gov/wp-content/uploads/2023/04/M-23-15.pdf.

[70] Executive Office of the President, "Return to In-Person Work, Memorandum for the Heads of Executive Departments and Agencies," 90 *Federal Register* 8251, January 28, 2025.

[71] U.S. Congress, House Oversight and Government Reform Committee, *The Stay-at-Home Federal Workforce: Another Biden-Harris Legacy*, 119th Cong., 1st sess., January 15, 2025.

[72] OMB, *OMB Report to Congress on Telework and Real Property Utilization*, August 2024, p. 11, https://bidenwhitehouse.archives.gov/wp-content/uploads/2024/08/OMB-Report-to-Congress-on-Telework-and-Real-Property.pdf. (Hereinafter "OMB Report to Congress.")

Concluding Observations

Remote work has impacted various aspects of economic development, particularly since the COVID-19 pandemic increased remote work rates throughout the country. Congress may have an interest in understanding the relationship between remote work and economic development and staying informed of further research on the issue. This may be especially true as more segments of the population consider returning to primarily in-person work, and as Congress explores options for legislating on remote work policies, both for the federal workforce and the private sector.

Appendix. Selected Legislation and Other Federal Interest

Congress (as well as the executive branch) has shown interest in influencing the adoption and utilization of remote work. While most of the legislation proposed has focused on remote work among federal government employees, several bills relate to remote work in the private sector. This selected discusses selected legislation that deals with telework or remote work.

112th-117th Congresses

In the 112th Congress, H.R. 710 would have amended the Internal Revenue Service Code of 1986 to create a tax credit for private sector employers or employees of up to $1,000 annually for expenses incurred on behalf of employees working remotely at least 75 days per year.

As aforementioned, the Telework Enhancement Act of 2010 authorized executive agencies to conduct remote work pilot programs. Agencies were authorized to reimburse employees for travel expenses when those employees were required to periodically report to an agency worksite. These provisions were required to sunset seven years following the law's enactment.[73] In the 115th Congress, Title XI of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (P.L. 115-232) extended agencies' ability to conduct such remote work expense pilot programs through December 31, 2020.[74] Also in the 115th Congress, H.R. 6551 would have amended the Telework Enhancement Act of 2010 to require agency's remote work policies to include methods for collecting data about cost savings from remote work.

The Telework Enhancement Act of 2010 also specifically designated the U.S. Patent and Trademark Office (PTO) to conduct a remote work expense pilot program in which certain employees could work remotely either within or outside the "local commuting area" of a PTO worksite.[75] In the 116th Congress, the Telework U.S. Innovation Act (S. 4138 and H.R. 7448) would have permanently authorized PTO's remote work program, including allowing PTO employees to live anywhere around the country and authorizing PTO to pay for any travel expenses to and from a PTO worksite. Referring to the agency's remote work program, S. 4138's accompanying report noted that, "Recent PTO reports demonstrate the benefits enjoyed by the agency, amounting to more than $123 million in net savings in fiscal year (FY) 2019."[76] S. 4138 passed the Senate.

In the 116th Congress, the SAFE at Work Act of 2020 (H.R. 6219) would have created a tax credit for private sector employers that allowed employees to work remotely over at least 12 business days each month. The credit would have been worth $100 for each qualified employee each month and would have expired on December 31, 2021.

In the 117th Congress, the Telework Metrics and Cost Savings Act (H.R. 7951) would have prohibited executive agencies from reducing or limiting the amount of federal employees who may work remotely below the level at the time of the bill's enactment. The bill also would have

[73] 124 Stat. 3173.

[74] 132 Stat. 2001.

[75] 124 Stat. 3172-3173.

[76] U.S. Congress, Senate Homeland Security and Governmental Affairs Committee, *Telework for U.S. Innovation Act, Report of the Committee on Homeland Security and Governmental Affairs, United States Senate*, report to accompany S. 4138, 116th Cong., 2nd sess., October 1, 2020, S.Rept. 116-276 (Washington: GPO, 2020), p. 2. The quotation cites a report "on file with the Committee." CRS was unable to locate a copy of the report.

required OPM to issue guidance on how agencies could better collect data on remote work use and implementation, including any cost savings. Versions of the bill were also introduced in the 116th Congress (H.R. 6108 and S. 3428).

Also in the 117th Congress, the Workflex in the 21st Century Act (H.R. 4248) would have amended provisions of the Employee Retirement Income Security Act (P.L. 93-406) to create a voluntary option under which private sector employers who provide "flexible workplace arrangement plans" would have been exempt from certain state and local laws regarding employee benefits. A remote work plan would have qualified as a flexible workplace arrangement plan. A previous version of the bill was also introduced in the 115th Congress (H.R. 4219).

118th Congress

Some Members of the 118th Congress introduced a number of bills related to remote work that would have impacted private sector employees and the federal workforce. They included:

- The USE IT Act of 2023 (H.R. 6276), which would have required the Office of Management and Budget (OMB) and the General Services Administration (GSA) to establish standard methodologies and identify technologies to measure federal building usage and to use both to evaluate and consolidate public buildings and federally leased space; directed OMB and GSA to annually ensure building usage rates averaged 60% or higher in all federally-owned or leased buildings and space; and stipulated that OMB and GSA must develop a plan to consolidate federal agency headquarters building in the Washington, DC region so building usage rates exceed 60%.
- The Multi-State Worker Tax Fairness Act of 2024 (H.R. 10026), which would have limited a state's authority to levy its income tax on nonresidents' earnings to periods in which the nonresident is physically in the state. Similar versions of the bill were introduced in the 117th (S. 1887 and H.R. 4267) and 116th (H.R. 7968) Congresses.
- The Telework Transparency Act of 2024 (S. 4043), which would have amended the Telework Enhancement Act of 2010 to, among things, require that each executive agency submit a report to OPM describing the agency's remote work policies; stipulate that managers of remote workers must track and evaluate remote workers' job performance; and task heads of each executive agency with developing indicators to assess and monitor the effects of remote work policies on the agency's performance.

119th Congress

Some Members of the 119th have introduced several bills related to remote work for the federal workforce. They include:

- The SHOW UP Act of 2025 (S. 354), which would require executive agencies to reinstate the remote work policies that were in place as of December 31, 2019, and restrict agencies from expanding remote work policies unless OPM determines doing so would positively affect the agency's mission and operations. A version of the legislation introduced in the 118th Congress (H.R. 139) passed the House.
- The Telework Reform Act of 2025 (S. 82), which would amend the Telework Enhancement Act of 2010 to, among other things, define "remote work" as a

- category of telework under which employees work full-time somewhere other than an agency worksite for up to one year, at which point an employee's remote work agreement is reviewed by a supervisor; allow for employees who have been officially disciplined or whose performance "falls below acceptable levels" to potentially be restricted from working remotely; and require that remote workers "may be expected to report to the agency-designated worksite of the employee on a periodic basis." Similar legislation was introduced in the 118th Congress (S. 3015).
- The Support Military Families Act (H.R. 977), which would specifically authorize federal workers whose spouses are in the military to perform continued telework and remote work.

The executive branch has also demonstrated interest in remote work—specifically for federal employees. For example, on January 20, 2025, the Trump Administration issued a memorandum requiring that, "Heads of all departments and agencies in the executive branch of Government shall, as soon as practicable, take all necessary steps to terminate remote work arrangements and require employees to return to work in-person at their respective duty stations on a full-time basis."[77]

Author Information

Adam G. Levin
Analyst in Economic Development Policy

Disclaimer

[77] Executive Office of the President, "Return to In-Person Work, Memorandum for the Heads of Executive Departments and Agencies," 90 *Federal Register* 8251, January 28, 2025.